

ABSTRACT

A nozzle for atomizing and spraying liquid is provided. The nozzle includes a longitudinal liquid flow passageway that terminates in a liquid orifice for directing a stream of liquid along a predetermined axis. A plurality of intersecting, transverse passageways extend perpendicular to and intersect the predetermined axis. Each of the transverse passageways terminates at either end in an outlet. The transverse passageways define a first impingement surface downstream of the liquid orifice for breaking up a stream of liquid impinging thereon into a laterally spreading dispersion which disperses through the transverse passageways. An air annulus is arranged in surrounding relation to the outlets of the transverse passageways and oriented to discharge air in a downstream direction so as to strike the fluid dispersed through the outlets of the transverse passageways. An expansion chamber is arranged downstream of the transverse passageways and air annulus. The expansion chamber communicates with a nozzle discharge orifice.